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* * * * * Welcome to STN International * * * * *

NEWS	1		Web Page URLs for STN Seminar Schedule - N. America
NEWS	2	Jan 25	BLAST(R) searching in REGISTRY available in STN on the Web
NEWS	3	Jan 29	FSTA has been reloaded and moves to weekly updates
NEWS	4	Feb 01	DKILIT now produced by FIZ Karlsruhe and has a new update frequency
NEWS	5	Feb 19	Access via Tymnet and SprintNet Eliminated Effective 3/31/02
NEWS	6	Mar 08	Gene Names now available in BIOSIS
NEWS	7	Mar 22	TOXLIT no longer available
NEWS	8	Mar 22	TRCTHERMO no longer available
NEWS	9	Mar 28	US Provisional Priorities searched with P in CA/CAPLUS and USPATFULL
NEWS	10	Mar 28	LIPINSKI/CALC added for property searching in REGISTRY
NEWS	11	Apr 02	PAPERCHEM no longer available on STN. Use PAPERCHEM2 instead.
NEWS	12	Apr 08	"Ask CAS" for self-help around the clock
NEWS	13	Apr 09	BEILSTEIN: Reload and Implementation of a New Subject Area
NEWS	14	Apr 09	ZDB will be removed from STN
NEWS	15	Apr 19	US Patent Applications available in IFICDB, IFIPAT, and IFIUDB
NEWS	16	Apr 22	Records from IP.com available in CAPLUS, HCAPLUS, and ZCAPLUS
NEWS	17	Apr 22	BIOSIS Gene Names now available in TOXCENTER
NEWS	18	Apr 22	Federal Research in Progress (FEDRIP) now available
NEWS	19	Jun 03	New e-mail delivery for search results now available
NEWS	20	Jun 10	MEDLINE Reload
NEWS	21	Jun 10	PCTFULL has been reloaded
NEWS	22	Jul 02	FOREGE no longer contains STANDARDS file segment
NEWS EXPRESS			February 1 CURRENT WINDOWS VERSION IS V6.0d, CURRENT MACINTOSH VERSION IS V6.0a(ENG) AND V6.0Ja(JP), AND CURRENT DISCOVER FILE IS DATED 05 FEBRUARY 2002
NEWS HOURS			STN Operating Hours Plus Help Desk Availability
NEWS INTER			General Internet Information
NEWS LOGIN			Welcome Banner and News Items
NEWS PHONE			Direct Dial and Telecommunication Network Access to STN
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* * * * * * * * * * * STN Columbus * * * * *

FILE 'HOME' ENTERED AT 18:34:53 ON 15 JUL 2002

=> file medline, uspatful, dgene, embase, wpids, biosis

| | | |
|----------------------|------------------|---------------|
| COST IN U.S. DOLLARS | SINCE FILE ENTRY | TOTAL SESSION |
| FULL ESTIMATED COST | 0.21 | 0.21 |

FILE 'MEDLINE' ENTERED AT 18:35:16 ON 15 JUL 2002

FILE 'USPATFULL' ENTERED AT 18:35:16 ON 15 JUL 2002
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FILE 'BIOSIS' ENTERED AT 18:35:16 ON 15 JUL 2002
COPYRIGHT (C) 2002 BIOLOGICAL ABSTRACTS INC.(R)

=> s yeast and ferment xylose

L1 81 YEAST AND FERMENT XYLOSE

=> s yeast and ferment glucose

L2 99 YEAST AND FERMENT GLUCOSE

=> s saccharomyces

L3 190017 SACCHAROMYCES

=> s l1 and l2

L4 10 L1 AND L2

=> s l1 and rDNA

L5 3 L1 AND RDNA

=> d l5 ti abs ibib tot

L5 ANSWER 1 OF 3 USPATFULL
TI Aureobasidium pullulans xylanase, gene and signal sequence
AB A xylanase from Aureobasidium pullulans having a high specific activity
 is provided as well as a signal protein for controlling excretion into
 cell culture medium of proteins to which it is attached. DNA encoding
 these proteins is also provided.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.
ACCESSION NUMBER: 97:1346 USPATFULL

TITLE: Aureobasidium pullulans xylanase, gene and signal sequence
 INVENTOR(S): Jin-Liang, Li, Athens, GA, United States
 Ljungdahl, Lars G., Athens, GA, United States
 PATENT ASSIGNEE(S): University of Georgia Research Foundation, Inc.,
 Athens, GA, United States (U.S. corporation)

| | NUMBER | KIND | DATE |
|-----------------------|----------------------------------------|------|--------------|
| PATENT INFORMATION: | US 5591619 | | 19970107 |
| APPLICATION INFO.: | US 1994-315695 | | 19940930 (8) |
| DOCUMENT TYPE: | Utility | | |
| FILE SEGMENT: | Granted | | |
| PRIMARY EXAMINER: | Wax, Robert A. | | |
| ASSISTANT EXAMINER: | Grimes, Eric | | |
| LEGAL REPRESENTATIVE: | Greenlee, Winner and Sullivan | | |
| NUMBER OF CLAIMS: | 16 | | |
| EXEMPLARY CLAIM: | 1 | | |
| NUMBER OF DRAWINGS: | 4 Drawing Figure(s); 4 Drawing Page(s) | | |
| LINE COUNT: | 2284 | | |

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L5 ANSWER 2 OF 3 DGENE (C) 2002 THOMSON DERWENT

TI **Yeast** which ferments xylose to methanol - comprising xylitol reductase, xylitol dehydrogenase and xylulokinase genes integrated at each of its multiple reiterated ribosomal DNA sites

AN AAV12824 DNA DGENE

AB This sequence represents an amplification primer for the **yeast** 5S **rDNA** sequence. The amplified sequence can be used in the **yeast** of the invention, which ferments xylose to ethanol. The **yeast** comprises: (a) xylose reductase (XR), xylitol dehydrogenase (XD) and xylulokinase (XK) genes integrated at each of its multiple reiterated ribosomal DNA sites; (b) multiple copies of exogenous DNA, including XR, XD, and XK genes, fused to non-glucose inhibited promoters integrated into its chromosomal DNA, where the **yeast** simultaneously ferments glucose and xylose to ethanol; or (c) multiple copies of an introduced DNA containing XR, XD and XK genes, where the **yeast** ferments xylose to ethanol; the yeasts of (b) and (c) retain their capacity for fermenting xylose to ethanol when cultured under non-selective conditions for at least 20 generations. The **yeast** is produced by integrating multiple copies of exogenous DNA into reiterated chromosomal DNA of cells. The **yeast** produced by the integration method, even upon culture in non-selective medium for multiple generations (e.g. up to 20), retain their full capability to **ferment xylose** to ethanol.

ACCESSION NUMBER: AAV12824 DNA DGENE

TITLE: **Yeast** which ferments xylose to methanol - comprising xylitol reductase, xylitol dehydrogenase and xylulokinase genes integrated at each of its multiple reiterated ribosomal DNA sites

INVENTOR: Chen Z; Ho N W Y

PATENT ASSIGNEE: (PURD)PURDUE RES FOUND.

PATENT INFO: WO 9742307 A1 19971113 66p

APPLICATION INFO: WO 1997-US7663 19970506

PRIORITY INFO: US 1996-16865 19960506

DOCUMENT TYPE: Patent

LANGUAGE: English

OTHER SOURCE: 1997-558974 [51]

L5 ANSWER 3 OF 3 DGENE (C) 2002 THOMSON DERWENT

TI **Yeast** which ferments xylose to methanol - comprising xylitol reductase, xylitol dehydrogenase and xylulokinase genes integrated at each of its multiple reiterated ribosomal DNA sites

AN AAV12825 DNA DGENE

AB This sequence represents an amplification primer for the **yeast** 5S **rdna** sequence. The amplified sequence can be used in the **yeast** of the invention, which ferments xylose to ethanol. The **yeast** comprises: (a) xylose reductase (XR), xylitol dehydrogenase (XD) and xylulokinase (XK) genes integrated at each of its multiple reiterated ribosomal DNA sites; (b) multiple copies of exogenous DNA, including XR, XD, and XK genes, fused to non-glucose inhibited promoters integrated into its chromosomal DNA, where the **yeast** simultaneously ferments glucose and xylose to ethanol; or (c) multiple copies of an introduced DNA containing XR, XD and XK genes, where the **yeast** ferments xylose to ethanol; the yeasts of (b) and (c) retain their capacity for fermenting xylose to ethanol when cultured under non-selective conditions for at least 20 generations. The **yeast** is produced by integrating multiple copies of exogenous DNA into reiterated chromosomal DNA of cells. The **yeast** produced by the integration method, even upon culture in non-selective medium for multiple generations (e.g. up to 20), retain their full capability to **ferment xylose** to ethanol.

ACCESSION NUMBER: AAV12825 DNA DGENE

TITLE: **Yeast** which ferments xylose to methanol - comprising xylitol reductase, xylitol dehydrogenase and xylulokinase genes integrated at each of its multiple reiterated ribosomal DNA sites

INVENTOR: Chen Z; Ho N W Y

PATENT ASSIGNEE: (PURD) PURDUE RES FOUND.

PATENT INFO: WO 9742307 A1 19971113

66p

APPLICATION INFO: WO 1997-US7663 19970506

PRIORITY INFO: US 1996-16865 19960506

DOCUMENT TYPE: Patent

LANGUAGE: English

OTHER SOURCE: 1997-558974 [51]

=> d his

(FILE 'HOME' ENTERED AT 18:34:53 ON 15 JUL 2002)

FILE 'MEDLINE, USPATFULL, DGENE, EMBASE, WPIDS, BIOSIS' ENTERED AT 18:35:16 ON 15 JUL 2002

L1 81 S YEAST AND FERMENT XYLOSE
L2 99 S YEAST AND FERMENT GLUCOSE
L3 190017 S. SACCHAROMYCES
L4 10 S L1 AND L2
L5 3 S L1 AND RDNA

=> d l4 ti abs ibib tot

L4 ANSWER 1 OF 10 USPATFULL

TI Single zymomonas mobilis strain for xylose and arabinose fermentation

AB This invention relates to single microorganisms which normally do not ferment pentose sugars which are genetically altered to ferment the pentose sugars, xylose and arabinose, to produce ethanol, and a fermentation process utilizing the same. Examples include Zymomonas mobilis which has been transformed with a combination of E. coli genes for xylose isomerase, xylulokinase, L-arabinose isomerase, L-ribulokinase, L-ribulose 5-phosphate 4-epimerase, transaldolase and transketolase. Expression of added genes are under the control of Z. mobilis promoters. These newly created microorganisms are useful for fermenting glucose, xylose and arabinose, produced by hydrolysis of hemicellulose and cellulose or starch, to produce ethanol.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

ACCESSION NUMBER: 1998:150771 USPATFULL
 TITLE: Single zymomonas mobilis strain for xylose and
 abinose fermentation
 INVENTOR(S): Zhang, Min, Lakewood, CO, United States
 Chou, Yat-Chen, Wheat Ridge, CO, United States
 Picataggio, Stephen K., Landenberg, PA, United States
 Finkelstein, Mark, Fort Collins, CO, United States
 PATENT ASSIGNEE(S): Midwest Research Institute, Kansas City, MI, United
 States (U.S. corporation)

| | NUMBER | KIND | DATE |
|-----------------------|-------------------------------------------------------------------------------------------------------------|------|--------------|
| PATENT INFORMATION: | US 5843760 | | 19981201 |
| APPLICATION INFO.: | US 1997-851767 | | 19970506 (8) |
| RELATED APPLN. INFO.: | Continuation-in-part of Ser. No. US 1995-421996, filed
on 14 Apr 1995, now patented, Pat. No. US 5726053 | | |

which

is a continuation-in-part of Ser. No. US 1994-228303,
filed on 15 Apr 1994, now patented, Pat. No. US

5514583

DOCUMENT TYPE: Utility
 FILE SEGMENT: Granted
 PRIMARY EXAMINER: Prouty, Rebecca E.
 LEGAL REPRESENTATIVE: Richardson, Ken
 NUMBER OF CLAIMS: 10
 EXEMPLARY CLAIM: 1
 NUMBER OF DRAWINGS: 6 Drawing Figure(s); 3 Drawing Page(s)
 LINE COUNT: 612
 CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L4 ANSWER 2 OF 10 USPATFULL

TI Recombinant lactobacillus for fermentation of xylose to lactic acid and
lactate

AB A recombinant Lactobacillus MONT4 is provided which has been
 genetically
 engineered with xylose isomerase and xylulokinase genes from
 Lactobacillus pentosus to impart to the Lactobacillus MONT4 the ability
 to ferment lignocellulosic biomass containing xylose to lactic acid.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

ACCESSION NUMBER: 1998:101528 USPATFULL
 TITLE: Recombinant lactobacillus for fermentation of xylose
 to

lactic acid and lactate
 INVENTOR(S): Picataggio, Stephen K., Golden, CO, United States
 Zhang, Min, Lakewood, CO, United States
 Franden, Mary Ann, Littleton, CO, United States
 Mc Millan, James D., Boulder, CO, United States
 Finkelstein, Mark, Fort Collins, CO, United States

PATENT ASSIGNEE(S): Midwest Research Institute, Kansas City, MI, United
 States (U.S. corporation)

| | NUMBER | KIND | DATE |
|-----------------------|------------------------------------------------|------|--------------|
| PATENT INFORMATION: | US 5798237 | | 19980825 |
| APPLICATION INFO.: | US 1995-541632 | | 19951010 (8) |
| DOCUMENT TYPE: | Utility | | |
| FILE SEGMENT: | Granted | | |
| PRIMARY EXAMINER: | Elliott, George C. | | |
| ASSISTANT EXAMINER: | Wang, Andrew | | |
| LEGAL REPRESENTATIVE: | O'Connor, Edna M., Richardson, Ken, Eure, Ruth | | |
| NUMBER OF CLAIMS: | 12 | | |
| EXEMPLARY CLAIM: | 1 | | |
| NUMBER OF DRAWINGS: | 4 Drawing Figure(s); 4 Drawing Page(s) | | |

LINE COUNT: 717
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L4 ANSWER 3 OF 10 USPATFULL

TI Recombinant yeasts for effective fermentation of glucose and xylose
AB Described are recombinant yeasts containing genes encoding xylose reductase, xylitol dehydrogenase and xylulokinase, and DNA molecules, vectors and methods useful for producing such yeasts. The recombinant yeasts effectively ferment xylose to ethanol, and preferred yeasts are capable of simultaneously fermenting glucose and xylose to ethanol thereby taking full advantage of these two sugar sources as they are found in agricultural biomass.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

ACCESSION NUMBER: 1998:91839 USPATFULL
TITLE: Recombinant yeasts for effective fermentation of glucose and xylose
INVENTOR(S): Ho, Nancy W. Y., West Lafayette, IN, United States
Tsao, George T., West Lafayette, IN, United States
PATENT ASSIGNEE(S): Purdue Research Foundation, West Lafayette, IN, United States (U.S. corporation)

| | NUMBER | KIND | DATE |
|-----------------------|----------------------------------------------|------|--------------|
| PATENT INFORMATION: | US 5789210 | | 19980804 |
| APPLICATION INFO.: | US 1993-148581 | | 19931108 (8) |
| DOCUMENT TYPE: | Utility | | |
| FILE SEGMENT: | Granted | | |
| PRIMARY EXAMINER: | Guzo, David | | |
| LEGAL REPRESENTATIVE: | Woodard, Emhardt, Naughton Moriarty & McNett | | |
| NUMBER OF CLAIMS: | 20 | | |
| EXEMPLARY CLAIM: | 13 | | |
| NUMBER OF DRAWINGS: | 18 Drawing Figure(s); 18 Drawing Page(s) | | |
| LINE COUNT: | 1046 | | |

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L4 ANSWER 4 OF 10 USPATFULL

TI Recombinant Zymomonas for pentose fermentation
AB The invention relates to microorganisms which normally do not ferment pentose sugar and which are genetically altered to ferment pentose sugar to produce ethanol, and fermentation processes utilizing the same. Examples include Zymomonas mobilis which has been transformed with combinations of E. coli genes for xylose isomerase, xylulokinase, transaldolase, transketolase, L-arabinose isomerase, L-ribulokinase, and L-ribulose-5-phosphate 4-epimerase. Expression of the added genes are under the control of Zymomonas mobilis promoters. These newly created microorganisms are useful for fermenting pentoses and glucose, produced by hydrolysis of hemicellulose and cellulose, to produce ethanol.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

ACCESSION NUMBER: 1998:25113 USPATFULL
TITLE: Recombinant Zymomonas for pentose fermentation
INVENTOR(S): Picataggio, Stephen K., Golden, CO, United States
Zhang, Min, Lakewood, CO, United States
Eddy, Christina K., Saratoga Springs, NY, United States
Deanda, Kristine A., Conifer, CO, United States
PATENT ASSIGNEE(S): Midwest Research Institute, Kansas City, MO, United States (U.S. corporation)

| NUMBER | KIND | DATE |
|--------|------|------|
|--------|------|------|

PATENT INFORMATION: US 5726053 19980310
 APPLICATION INFO.: US 1995-421996 19950414 (8)
 RELATED APPLN. INFO.: Continuation-in-part of Ser. No. 1994-228303, filed
 on 15 Apr 1994, now patented, Pat. No. US 5514583
 DOCUMENT TYPE: Utility
 FILE SEGMENT: Granted
 PRIMARY EXAMINER: Prouty, Rebecca E.
 LEGAL REPRESENTATIVE: O'Connor, Edna M., Richardson, Ken, Eure, Ruth
 NUMBER OF CLAIMS: 12
 EXEMPLARY CLAIM: 1
 NUMBER OF DRAWINGS: 7 Drawing Figure(s); 7 Drawing Page(s)
 LINE COUNT: 1232
 CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L4 ANSWER 5 OF 10 USPATFULL

TI Pentose fermentation by recombinant zymomonas
 AB The invention relates to microorganisms which normally do not ferment
 sugar pentose sugar and which are genetically altered to ferment pentose
 sugar to produce ethanol, and fermentation processes utilizing the same.
 Examples include Zymomonas mobilis which has been transformed with
 combinations of E. coli genes for xylose isomerase, xylulokinase,
 transaldolase, transketolase, L-arabinose isomerase, L-ribulokinase,
 and L-ribulose 5-phosphate 4-epimerase. Expression of the added genes are
 under the control of Zymomonas mobilis promoters. These newly created
 microorganisms are useful for fermenting pentoses and glucose, produced
 by hydrolysis of hemicellulose and cellulose, to produce ethanol.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

ACCESSION NUMBER: 1998:9364 USPATFULL
 TITLE: Pentose fermentation by recombinant zymomonas
 INVENTOR(S): Picataggio, Stephen K., Golden, CO, United States
 Zhang, Min, Lakewood, CO, United States
 Eddy, Christina K., Saratoga Springs, NY, United
 States
 Deanda, Kristine A., Conifer, CO, United States
 Finkelstein, Mark, Fort Collins, CO, United States
 Mohagheghi, Ali, Northglenn, CO, United States
 Newman, Mildred M., Littleton, CO, United States
 McMillan, James D., Boulder, CO, United States
 PATENT ASSIGNEE(S): Midwest Research Institute, Kansas City, MO, United
 States (U.S. corporation)

| | NUMBER | KIND | DATE |
|-----------------------|-------------------------------------------------------------------------------------------------------------|------|--------------|
| PATENT INFORMATION: | US 5712133 | | 19980127 |
| APPLICATION INFO.: | US 1995-422424 | | 19950414 (8) |
| RELATED APPLN. INFO.: | Continuation-in-part of Ser. No. US 1994-228303, filed
on 15 Apr 1994, now patented, Pat. No. US 5514583 | | |
| DOCUMENT TYPE: | Utility | | |
| FILE SEGMENT: | Granted | | |
| PRIMARY EXAMINER: | Prouty, Rebecca E. | | |
| LEGAL REPRESENTATIVE: | O'Connor, Edna M., Richardson, Ken, Eure, Ruth | | |
| NUMBER OF CLAIMS: | 10 | | |
| EXEMPLARY CLAIM: | 1 | | |
| NUMBER OF DRAWINGS: | 7 Drawing Figure(s); 7 Drawing Page(s) | | |
| LINE COUNT: | 1244 | | |

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L4 ANSWER 6 OF 10 USPATFULL

TI Recombinant zymomonas for pentose fermentation
 AB The invention relates to microorganisms which normally do not ferment a
 pentose sugar and which are genetically altered to ferment this pentose

are to produce ethanol. A representative example is *Zymomonas mobilis* which has been transformed with *E. coli* xylose isomerase, xylulokinase, transaldolase and transketolase genes. Expression of the added genes under the control of *Zymomonas mobilis* promoters. This newly created microorganism is useful for fermenting pentoses and glucose, produced by hydrolysis of hemicellulose and cellulose, to produce ethanol.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

ACCESSION NUMBER: 96:38807 USPATFULL
 TITLE: Recombinant zymomonas for pentose fermentation
 INVENTOR(S): Picataggio, Stephen K., Golden, CO, United States
 Zhang, Min, Lakewood, CO, United States
 Eddy, Christina K., Littleton, CO, United States
 Deanda, Kristine A., Lakewood, CO, United States
 Finkelstein, Mark, Fort Collins, CO, United States
 PATENT ASSIGNEE(S): Midwest Research Institute, Kansas City, MO, United States (U.S. corporation)

| | NUMBER | KIND | DATE |
|-----------------------|-------------------------------|--------------------------------------|--------------|
| PATENT INFORMATION: | US 5514583 | | 19960507 |
| APPLICATION INFO.: | US 1994-228303 | | 19940415 (8) |
| DOCUMENT TYPE: | Utility | | |
| FILE SEGMENT: | Granted | | |
| PRIMARY EXAMINER: | Wax, Robert A. | | |
| ASSISTANT EXAMINER: | Prouty, Rebecca | | |
| LEGAL REPRESENTATIVE: | O'Connor, Edna M., Eure, Ruth | | |
| NUMBER OF CLAIMS: | 9 | | |
| EXEMPLARY CLAIM: | 1 | | |
| NUMBER OF DRAWINGS: | 2 | Drawing Figure(s); 2 Drawing Page(s) | |
| LINE COUNT: | 741 | | |

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L4 ANSWER 7 OF 10 USPATFULL

TI Method of producing products with a bilayer pellet containing a coimmobilized enzyme system that maintains a ph difference

AB A method of providing and sustaining a difference in pH of a first reaction of an immobilized enzyme and a second reaction in a bulk liquid surrounding the immobilized enzyme is carried out with a bilayer pellet containing coimmobilized enzymes. The pellet can contain an enzyme that produces a desired product immobilized in an inner core and urease immobilized in an outer layer. The bulk liquid contains urea and a substrate for the enzyme in the core, and has an acidic pH. The urease reacts with urea diffusing into the outer layer from the bulk liquid to produce ammonia. The ammonia consumes hydrogen ions diffusing into the inner core from the acidic bulk liquid. This provides the enzyme in the inner core with a pH higher than the acidic pH of the bulk liquid suitable for the enzyme to react with the substrate as it diffuses into the inner core. In a preferred embodiment, simultaneous isomerization of xylose to xylulose and fermentation of xylulose to ethanol is carried out with a bilayer pellet containing xylose isomerase in the core and yeast in the bulk liquid. The isomerization occurs at an optimum pH of 7.0 to 8.0 and the fermentation occurs at an optimum pH of 4.0 to 5.0.

ACCESSION NUMBER: 95:22822 USPATFULL
 TITLE: Method of producing products with a bilayer pellet containing a coimmobilized enzyme system that maintains a ph difference

INVENTOR(S): Fournier, Ronald L., Sylvania, OH, United States
Maranasi, Sasidhar, Toledo, OH, United States
Meyers, James P., Toledo, OH, United States
PATENT ASSIGNEE(S): University of Toledo, Toledo, OH, United States (U.S. corporation)

| | NUMBER | KIND | DATE |
|-----------------------|----------------------------------------------------------------------------------------------------------|------|--------------|
| PATENT INFORMATION: | US 5397700 | | 19950314 |
| APPLICATION INFO.: | US 1993-125546 | | 19930923 (8) |
| DISCLAIMER DATE: | 20101019 | | |
| RELATED APPLN. INFO.: | Continuation-in-part of Ser. No. US 1991-785938, filed on 31 Oct 1991, now patented, Pat. No. US 5254468 | | |
| DOCUMENT TYPE: | Utility | | |
| FILE SEGMENT: | Granted | | |
| PRIMARY EXAMINER: | Naff, David M. | | |
| LEGAL REPRESENTATIVE: | Marshall & Melhorn | | |
| NUMBER OF CLAIMS: | 2 | | |
| EXEMPLARY CLAIM: | 1 | | |
| NUMBER OF DRAWINGS: | 3 Drawing Figure(s); 2 Drawing Page(s) | | |
| LINE COUNT: | 624 | | |

L4 ANSWER 8 OF 10 USPATFULL

TI Combined enzyme mediated fermentation of cellulous and xylose to ethanol

by Schizosaccharoyces pombe, cellulase, .beta.-glucosidase, and xylose isomerase

AB A process for producing ethanol from mixed sugar streams from pretreated

biomass comprising xylose and cellulose using enzymes to convert these substrates to fermentable sugars; selecting and isolating a **yeast** Schizosaccharomyces pombe ATCC No. 2476, having the ability to ferment these sugars as they are being formed to produce ethanol; loading the substrates with the fermentation mix composed of **yeast**, enzymes and substrates; fermenting the loaded substrates and enzymes under anaerobic conditions at a pH range of between about 5.0 to about 6.0 and at a temperature range of between about 35.degree. C. to about 40.degree. C. until the fermentation is completed, the xylose being isomerized to xylulose, the cellulose being converted to glucose, and these sugars being concurrently converted to ethanol by **yeast** through means of the anaerobic fermentation; and recovering the ethanol.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

ACCESSION NUMBER: 94:108862 USPATFULL

TITLE: Combined enzyme mediated fermentation of cellulous and xylose to ethanol by Schizosaccharoyces pombe, cellulase, .beta.-glucosidase, and xylose isomerase

INVENTOR(S): Lastick, Stanley M., Longmont, CO, United States
Mohagheghi, Ali, Northglen, CO, United States
Tucker, Melvin P., Lakewood, CO, United States
Grohmann, Karel, Winter Haven, FL, United States

PATENT ASSIGNEE(S): The United States of America as represented by the United States Department of Energy, Washington, DC, United States (U.S. government)

| | NUMBER | KIND | DATE |
|-----------------------|------------------------------------------------------------------------------|------|--------------|
| PATENT INFORMATION: | US 5372939 | | 19941213 |
| APPLICATION INFO.: | US 1993-28592 | | 19930308 (8) |
| RELATED APPLN. INFO.: | Continuation of Ser. No. US 1991-672984, filed on 21 Mar 1991, now abandoned | | |
| DOCUMENT TYPE: | Utility | | |
| FILE SEGMENT: | Granted | | |

PRIMARY EXAMINER: Knode, Marian
LEGAL REPRESENTATIVE: Richardson, Kenneth, Anderson, Thomas G., Moser,
William R.

NUMBER OF CLAIMS: 4
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 2 Drawing Figure(s); 1 Drawing Page(s)
LINE COUNT: 227

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L4 ANSWER 9 OF 10 USPATFULL

TI Bilayer pellet containing immobilized xylose isomerase and urease for
the simultaneous isomerization and fermentation of xylose to ethanol
AB A bilayered immobilized enzyme pellet and a process to manufacture this
pellet are provided for use in a process involving the simultaneous
isomerization of xylose to xylulose and fermentation of xylulose to
ethanol. The bilayered pellet is able to maintain the environment where
the isomerization reaction occurs within its optimum pH of 7.0 to 8.0
while the fermentation reaction occurs within its optimum pH range of
4.0 to 5.0. This process allows both xylose and glucose sugars to be
effectively used as a feedstock for ethanol production by isomerizing
the xylose to xylulose and then making the xylulose immediately
available for the fermentation process. Because the xylose has been
converted to its ketose isomer, xylulose, yeasts which can
ferment glucose and xylulose can be used in this
process.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

ACCESSION NUMBER: 93:87255 USPATFULL
TITLE: Bilayer pellet containing immobilized xylose isomerase
and urease for the simultaneous isomerization and
fermentation of xylose to ethanol
INVENTOR(S): Fournier, Ronald L., Toledo, OH, United States
Varanasi, Sasidhar, Toledo, OH, United States
Byers, James P., Toledo, OH, United States
PATENT ASSIGNEE(S): The University of Toledo, Toledo, OH, United States
(U.S. corporation)

| | NUMBER | KIND | DATE |
|-----------------------|----------------------------------------|------|--------------|
| PATENT INFORMATION: | US 5254468 | | 19931019 |
| APPLICATION INFO.: | US 1991-785938 | | 19911031 (7) |
| DOCUMENT TYPE: | Utility | | |
| FILE SEGMENT: | Granted | | |
| PRIMARY EXAMINER: | Naff, David M. | | |
| LEGAL REPRESENTATIVE: | Marshall & Melhorn | | |
| NUMBER OF CLAIMS: | 7 | | |
| EXEMPLARY CLAIM: | 1 | | |
| NUMBER OF DRAWINGS: | 2 Drawing Figure(s); 2 Drawing Page(s) | | |
| LINE COUNT: | 513 | | |

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L4 ANSWER 10 OF 10 USPATFULL

TI Simultaneous saccharification and fermentation (SSF) using cellobiose
fermenting **yeast** Brettanomyces custersii
AB A process for producing ethanol from plant biomass includes forming a
substrate from the biomass with the substrate including hydrolysates of
cellulose and hemicellulose. A species of the **yeast**
Brettanomyces custersii (CBS 5512), which has the ability to ferment
both cellobiose and glucose to ethanol, is then selected and isolated.
The substrate is inoculated with this **yeast**, and the
inoculated substrate is then fermented under conditions favorable for
cell viability and conversion of hydrolysates to ethanol.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

ACCESSION NUMBER: 92:25254 USPATFULL
 TITLE: Simultaneous saccharification and fermentation (SSF)
 ing cellobiose fermenting yeasts
 Brettanomyces custersii
 INVENTOR(S): Spindler, Diane D., Indian Hills, CO, United States
 Grohmann, Karel, Littleton, CO, United States
 Wyman, Charles E., Lakewood, CO, United States
 PATENT ASSIGNEE(S): The United States of America as represented by the
 United States Department of Energy, Washington, DC,
 United States (U.S. government)

| | NUMBER | KIND | DATE |
|-----------------------|-----------------------------------------------------------------|------|--------------|
| PATENT INFORMATION: | US 5100791 | | 19920331 |
| APPLICATION INFO.: | US 1991-642268 | | 19910116 (7) |
| DOCUMENT TYPE: | Utility | | |
| FILE SEGMENT: | Granted | | |
| PRIMARY EXAMINER: | Lilling, Herbert J. | | |
| LEGAL REPRESENTATIVE: | Richardson, Kenneth, Weinberger, James W., Moser,
William R. | | |
| NUMBER OF CLAIMS: | 18 | | |
| EXEMPLARY CLAIM: | 1 | | |
| NUMBER OF DRAWINGS: | 2 Drawing Figure(s); 2 Drawing Page(s) | | |
| LINE COUNT: | 393 | | |

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

=> d his

(FILE 'HOME' ENTERED AT 18:34:53 ON 15 JUL 2002)

FILE 'MEDLINE, USPATFULL, DGENE, EMBASE, WPIDS, BIOSIS' ENTERED AT
 18:35:16 ON 15 JUL 2002

L1 81 S YEAST AND FERMENT XYLOSE
 L2 99 S YEAST AND FERMENT GLUCOSE
 L3 190017 S SACCHAROMYCES
 L4 10 S L1 AND L2
 L5 3 S L1 AND RDNA

=> s l4 and ethanol

L6 10 L4 AND ETHANOL

=> s l6 and non-glucose inhibited promoters

L7 1 L6 AND NON-GLUCOSE INHIBITED PROMOTERS

=> d l7 ti abs ibib tot

L7 ANSWER 1 OF 1 USPATFULL
 TI Recombinant yeasts for effective fermentation of glucose and xylose
 AB Described are recombinant yeasts containing genes encoding xylose
 reductase, xylitol dehydrogenase and xylulokinase, and DNA molecules,
 vectors and methods useful for producing such yeasts. The recombinant
 yeasts effectively ferment xylose to ethanol
 , and preferred yeasts are capable of simultaneously fermenting glucose
 and xylose to ethanol thereby taking full advantage of these
 two sugar sources as they are found in agricultural biomass.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

ACCESSION NUMBER: 1998:91839 USPATFULL
 TITLE: Recombinant yeasts for effective fermentation of

glucose and xylose

INVENTOR(S): Ho, Nancy W. Y., West Lafayette, IN, United States

 ao, George T., West Lafayette, , United States

PATENT ASSIGNEE(S): Purdue Research Foundation, West Lafayette, IN, United States (U.S. corporation)

| | NUMBER | KIND | DATE |
|--------------------------------------------|----------------------------------------------|-------|--------------|
| | ----- | ----- | ----- |
| PATENT INFORMATION: | US 5789210 | | 19980804 |
| APPLICATION INFO.: | US 1993-148581 | | 19931108 (8) |
| DOCUMENT TYPE: | Utility | | |
| FILE SEGMENT: | Granted | | |
| PRIMARY EXAMINER: | Guzo, David | | |
| LEGAL REPRESENTATIVE: | Woodard, Emhardt, Naughton Moriarty & McNett | | |
| NUMBER OF CLAIMS: | 20 | | |
| EXEMPLARY CLAIM: | 13 | | |
| NUMBER OF DRAWINGS: | 18 Drawing Figure(s); 18 Drawing Page(s) | | |
| LINE COUNT: | 1046 | | |
| CAS INDEXING IS AVAILABLE FOR THIS PATENT. | | | |